

# FIGURE 1

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1 ATGTCAGTGGAGCCATGAAGAAGGGAGTGGGAGGGCAGTTGGGCTTGGGAGGGCAGC 60  
61 GGCTGCCAGGCTACGGAAAGACCCCTTCCCGACTGCCGGCTTGCCTCGGGACAA 120  
121 GGTGGCAGGGCTGGAGGCTGCCAGGCAGCCTGGCTGGATGGACCTGGCTGGT 180  
181 TGGGAGCAGGGACCCGGCACTGGCTGGATGGACCTGGCTGGCCACTGGT 240  
241 CCAATGCCAGCAACACCCCTCATGGCCGATAACCTCACTTCAAGGATCACCTCC 300  
301 CGCACGGGAGCATTCCCTACATCAACATCATGCCTCGGTGAAGAAGTCCAAGCTG 360  
361 CTCCTGGCATCATGGGAACCTCACGGTCATCTCGGGTCAACCTCTGGTCA 420  
421 CACTGGCAACAAGGTCCCCGACATCTCATCAACCTCTCGTAGTAGATCTCCTC 480  
481 TTTCTCTGGCATGCCCTCATGATCCACCAGCTCATGGCAATGGGCAATAGTCAGTCACCAAGCACC 540  
541 GGGGAGCCATGTGCACCCCTCATCACGGCCATGGATGCCAACACTGTCCACCCATCTCTCC 600  
601 TACATCCTGACCCCATGGCCATTGACCGCTACCTGGCCACTGGCTCCACCCCTCTCC 660  
661 ACGAAGTTCCGGAAAGCCCCTCTGTGCCACCCCTGGTGATCTGCCTCGGT 720  
721 TTCACTAGGCATCACCCCTGTGGCTGTGGCTTGCCTTCCAGGAGGTGCA 780  
781 GTGGGCTGGGCATAGCCCTGCCAACCCAGACACTGACCTCTACTGGTTCACCCCTGTAC 840  
841 CAGTTTCCCTGGCCCTTGGCTTGCCTTGTGGTCACTCACAGCCGATACGGTGGGATC 900  
901 CTGCAGGGCATGACGGCTCAGTGGCCCTCCAGCGCAGCATTGGCTGGGACAA 960  
961 AAGAGGGTGAACCCGACAGCCATGCCCATCTGTCTGGCTTGTGTGGCACCC 1020  
1021 TACTATGTGCTACAGCTGACCCAGTTGGCTATGCCAACAGCTGCCCTTGTGTAC 1080  
1081 TTATACAATGGGCATCAGCTGGCTTGGCTACGCCCTAACCCCTTGTGTAC 1140  
1141 ATCGTGCTCTGTGAGACGTTCCGCAAACCGCTGGTCCCTGTCGGTGAAGCCTGCAGCCCCAG 1200  
1201 GGGCAGGCTTGGGCTGTCAACGGCTCAGCAACGCTCAACGGGCTGACGAGGAGGACAGAAAGCAA 1260  
1261 GGCACCTGA 1269

# FIGURE 2

1	M	S	V	G	A	M	K	K	G	V	G	R	A	V	G	L	G	G	G	S	20	
21	G	C	Q	Q	A	T	E	E	D	P	L	P	D	C	G	A	C	A	P	G	Q	40
41	G	G	R	R	R	W	R	L	P	Q	P	A	W	V	E	G	S	S	A	R	L	60
61	W	E	Q	Q	A	T	G	T	G	W	M	D	L	E	A	S	L	L	P	T	G	80
81	P	N	A	S	N	T	S	D	G	P	D	N	L	T	S	A	G	S	P	P	100	
101	R	T	G	S	I	S	Y	I	N	I	I	M	P	S	V	F	G	T	I	C	120	
121	L	L	G	I	I	G	N	S	T	V	I	F	A	V	V	K	K	S	K	L	140	
141	H	W	C	N	N	V	P	D	I	F	I	I	N	L	S	V	V	D	L	L	160	
161	F	L	L	G	M	P	F	M	I	H	Q	L	M	G	N	G	V	W	H	F	180	
181	G	E	T	M	C	T	L	I	T	A	M	D	A	N	S	Q	F	T	S	T	200	
201	Y	I	L	T	A	M	A	I	D	R	Y	L	A	T	V	H	P	I	S	S	220	
221	T	K	F	R	K	P	S	V	A	T	L	V	I	C	L	L	W	A	L	S	240	
241	F	I	S	I	T	P	V	W	L	Y	A	R	L	I	P	F	P	G	G	A	260	
261	V	G	C	G	I	R	L	P	N	P	D	T	D	L	Y	W	F	T	L	Y	280	
281	Q	F	F	L	A	F	A	L	P	F	V	V	I	T	A	A	Y	V	R	I	300	
301	L	Q	R	M	T	S	S	V	A	P	A	S	Q	R	S	I	R	L	R	T	320	
321	K	R	V	T	R	T	A	I	A	I	C	L	V	F	F	V	C	W	A	P	340	
341	Y	Y	V	L	Q	L	T	Q	L	S	I	S	R	P	T	L	T	F	V	Y	360	
361	L	Y	N	A	A	I	S	L	G	Y	A	N	S	C	L	N	P	F	V	Y	380	
381	I	V	L	C	E	T	F	R	K	R	L	V	L	S	V	K	P	A	A	Q	400	
401	G	Q	L	R	A	V	S	N	A	Q	T	A	D	E	E	R	T	E	S	K	420	
421	G	T																			422	

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## FIGURE 3

1 M S V G A M K K G V G R A V G L G G G S 20  
21 G C Q A T E E D P L P D C G A C A P G Q 40  
41 G G R R W R L P Q P A W V E G S S A R L 60  
61 W E Q A T G T G W M D L E A S L L P T G 80  
81 P N A S N T S D G P D N L T S A G S P P 100  
101 R T G S I S Y I N I I M P S V F G T I C 120  
I  
121 L L G I I G N S T V I F A V V K K S K L 140  
II  
141 H W C N N V P D I F I I N L S V V D L L 160  
161 F L L G M P F M I H Q L M G N G V W H F 180  
181 G E T M C T L I T A M D A N S O F T S T 200  
III  
201 Y I L T A M A I D R Y L A T V H P I S S 220  
221 T K F R K P S V A T L V I C L L W A L S 240  
IV  
241 F I S I T P V W L Y A R L I P F P G G A 260  
261 V G C G I R L P N P D T D L Y W F T L Y 280  
V  
281 O F F L A F A L P F V V I T A A Y V R I 300  
301 L Q R M T S S V A P A S Q R S I R L R T 320  
VI  
321 K R V T R T A I A I C L V F F V C W A P 340  
341 Y Y V L O L T O L S I S R P T L T F V Y 360  
VII  
361 L Y N A A I S L G Y A N S C L N P F V Y 380  
381 I V L C E T F R K R L V L S V K P A A Q 400  
401 G Q L R A V S N A Q T A D E E R T E S K 420  
421 G T 422

# FIGURE 4

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1    GCAGGGGACCTGCACGGGTGCATGGATCTGCCAAACCTCGTGTCCACTGGCCCCA  
61    TGC CAGCAACATCTCCGATGCCAGGATAATCTCACATTGCCCTTCGGCAC  
121    AGGGAGGTGTCTCCTACATCAACATCATTATGCCCTCCGGTGGTACCATCTGTCCT  
181    GGGCATCGTGGAAACTCCACGGTCATCTTCGCTGGTGAAGAGTCCAAGCTACACTG  
241    GTGCAGCAACCTCCCGACATCTCATCACAAACCTCTCATGGGGATCTGCTCTTCCT  
301    GCTGGGCATGCCCTCATGATCCACAGCTCATGGGAACGGGTCTGGCACCTTTGGGA  
361    AACCATGTGCACCCCTCATCACAGCCATGGACGCCAACAGTCAGTTCACTAGCACCTACAT  
421    CCTGACTGCCATGACCATGGCCACCGTCCACTTGCCACCCCATCTCCACCAA  
481    GTTCCCGGAAGGCCCTCCATGGCCACCCCTGGTGAATCTGCCCTCCTCTCAT  
541    CAGTATCACCCCTGTGGCTCTACGCCAGGGCTCACAGCCATGGACACTGACCTCTA  
601    CTGTGGCATCCGGCCTGCCAACCCGGACACTGACCTCTACTGGTCACTCTGTACCGTT  
661    TTCCCTGGCCTTGGCCCTTCCGTTGGTGTGGCATTACGGCCGATACGGTGA  
721    GGCATGACGTCTCGGTGGCCCCAGCCCTCCAAACGCCAGCATCCGGCTTCGGACAAGAG  
781    GGTGACCCGGCACGGCCATTGCCATCTGCTGCTGCTGGCACCCCTACTA  
841    TGTGCTGCAGGCTGACCCAGCTGTCCCATCAGCCGGCCGACCTCACGTTGTCTACTTGT  
901    CAACGGGCCATCAGCTTGGCTATGCTAACAGCTGCCTGAACCCCTTGTGTACATAGT  
961    GCTCTGTGAGAACCTTCGAAACGCTGGTGTGTCAGTGAAGGCCCTGCAGCCCAGGGCA  
1021    GCTCCGGCACGGTCAGCACGGCTCAGACAGCTGATGAGGGAGGACAGAAAGCAAGGCAC  
1081    CTGACAATTCCCCAGTCGCCCTCCAAGTCAGGCCACCCCATCAACCGTGGGAGAGATAC  
1141    TGAGATTAAACCAAGGCTACCCCTGGGAGAATGCAGGGCTGGAGGCTTGTAG  
1201    CAACACATCCAC

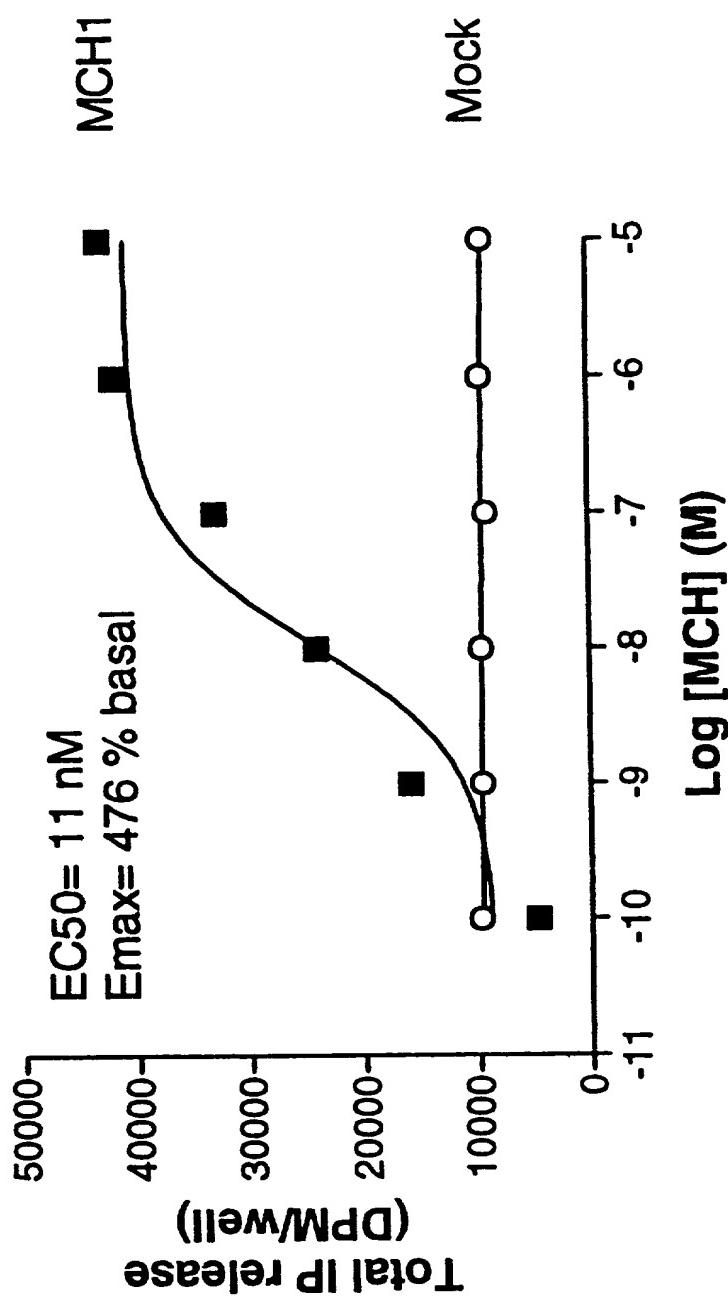
## FIGURE 5

	1	20	20
21	41	40	40
61	81	60	60
101	121	80	80
121	141	100	100
141	161	120	120
161	181	140	140
181	201	160	160
201	221	180	180
221	241	200	200
241	261	220	220
261	281	240	240
281	301	260	260
301	321	280	280
321	341	300	300
341		320	320
		340	340
		354	354

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## FIGURE 6

**IP release in MCH1- and  
mock-transfected Cos-7 cells**

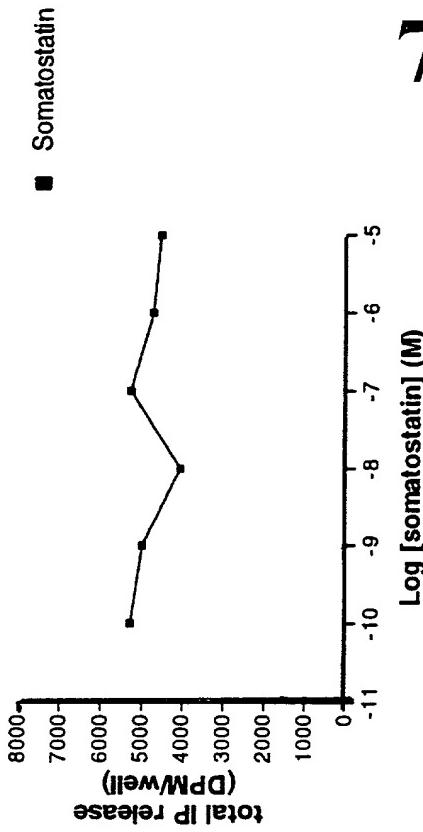
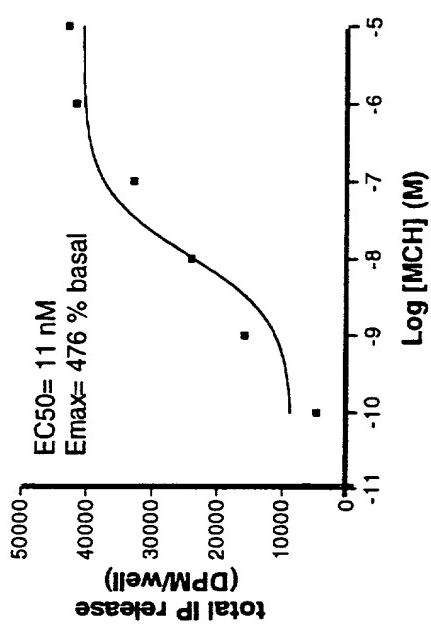


**FIGURE 7** IP release in MCH1-transfected  
Cos-7 cells  
24 well, 10/9/98

**IP release in MCH1-transfected**

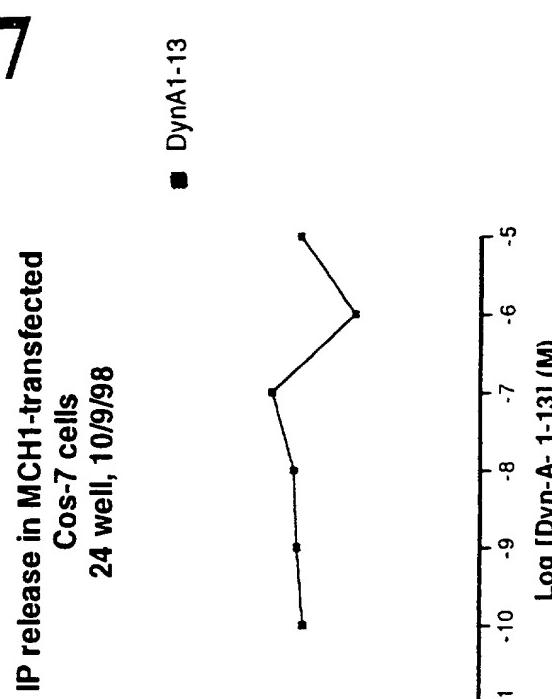
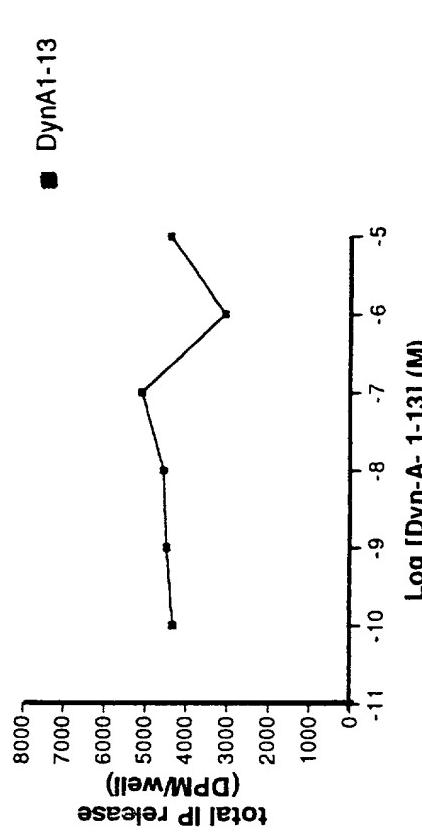
Cos-7 cells

24 well, 10/9/98



**IP release in MCH1-transfected**  
Cos-7 cells  
24 well, 10/9/98

**IP release in MCH1-transfected**  
Cos-7 cells  
24 well, 10/9/98

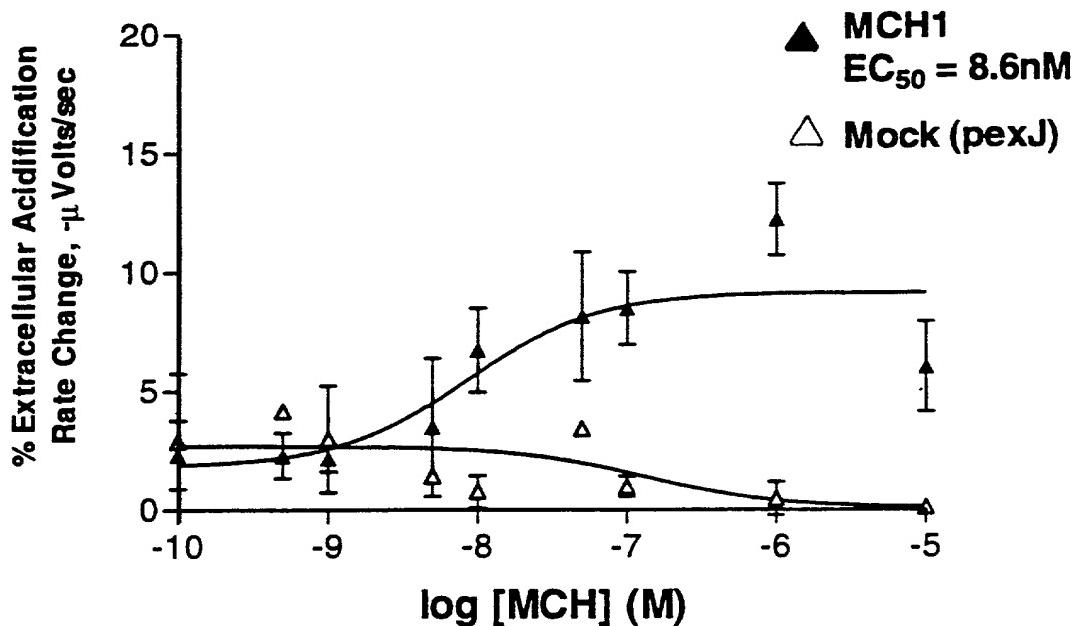


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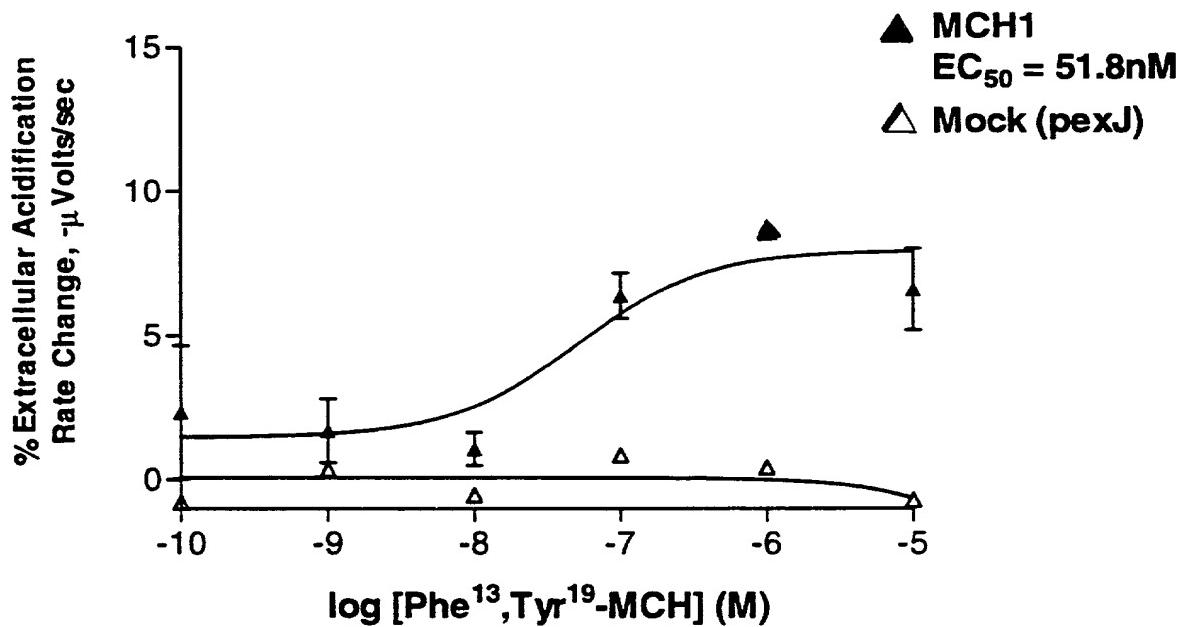
**FIGURE 8**

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**Microphysiometer Response  
CHO cells**

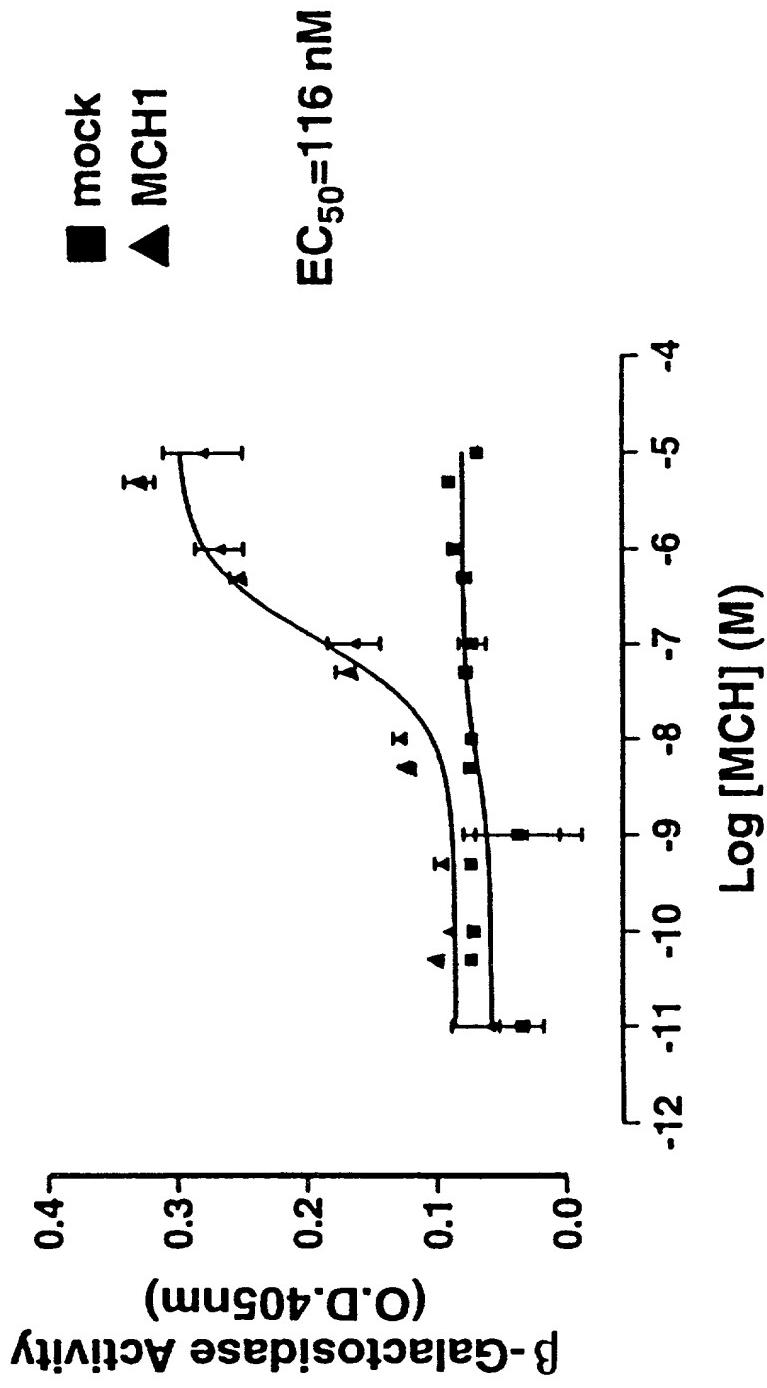


**Microphysiometer Response  
CHO cells**



**FIGURE 9**

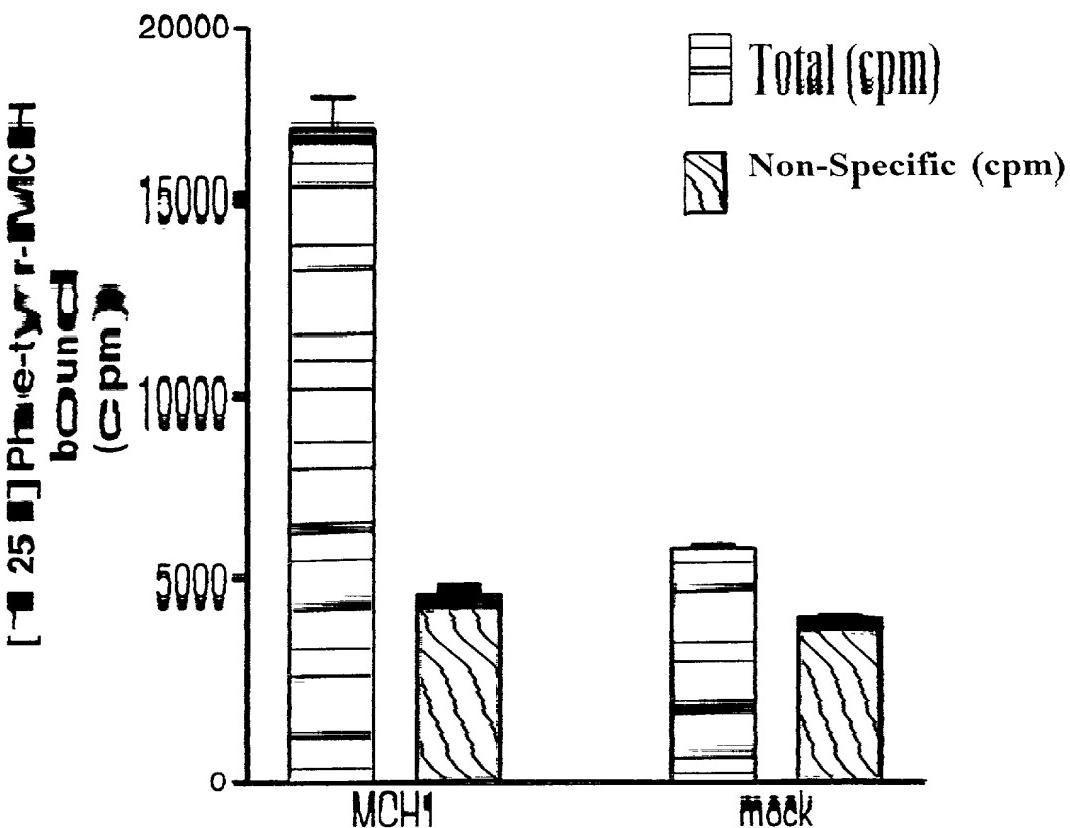
**Agonist-Mediated c-fos- $\beta$ -gal  
Activity in Cos-7 Cells**



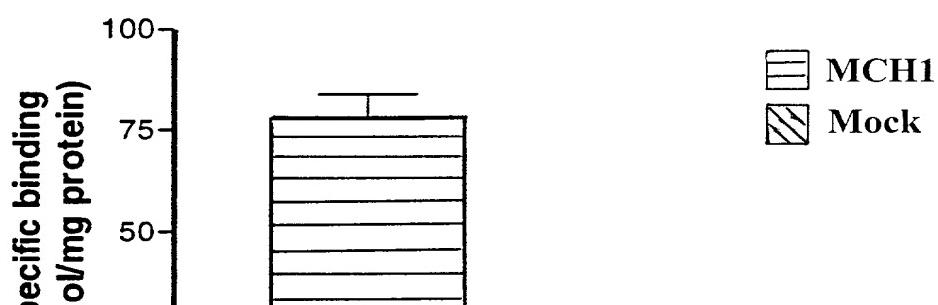
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## FIGURE 10

### [125I]Phe13-Tyr19-MCH binding on transiently transfected Cos-7 cells

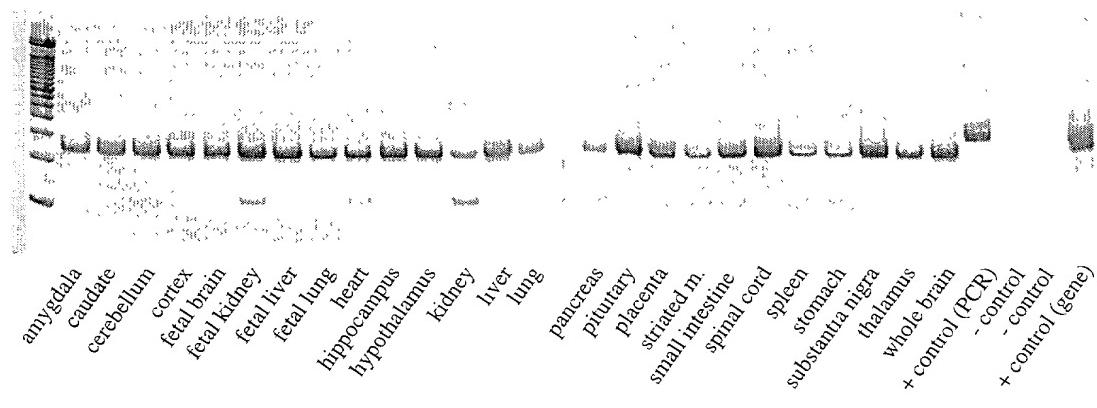


### [125I]Phe13-Tyr19-MCH binding on transiently transfected Cos-7 cells



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## FIGURE 11



# FIGURE 12

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TL231	MSVGAMKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAA?GQ
R106	MSVGAMKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAA?GQ
R114	MSVGAaKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAA?GQ
BO120	~~~	~~~	~~~	~~~
40				
TL231	GGRRWRLPQP	AWVEGSSSARI	WEQATGTGWM	DLEASLLPTG
R106	GGRRWRLPQ?	AWVEGSSSARI	WEQATGTGWA	DLEASLLPTG
R114	GGRRWRLPQ?	AWVEGSSSARI	WEQATGTGWA	DLEASLLPTG
BO120	~~~	~~~	~~~	~~~
41				
TL231	GRRRWRLPQP	AWVEGSSSARI	WEQATGTGWM	DLEASLLPTG
R106	GRRRWRLPQ?	AWVEGSSSARI	WEQATGTGWA	DLEASLLPTG
R114	GRRRWRLPQ?	AWVEGSSSARI	WEQATGTGWA	DLEASLLPTG
BO120	~~~	~~~	~~~	~~~
80				
TL231	PNASNTSDG?	DNLTSAGSPP	...	
R106	PNASNTSDG?	DNLTSAGSPP	...	
R114	PNASNTSDG?	DNLTSAGSPP	...	
BO120	PNASNTSDG?	DNLTSAGSPP	...	
81				
TL231	PNASNTSDG?	DNLTSAGSPP	...	
R106	PNASNTSDG?	DNLTSAGSPP	...	
R114	PNASNTSDG?	DNLTSAGSPP	...	
BO120	PNASNTSDG?	DNLTSAGSPP	...	
100				

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## FIGURE 13

1	M	S	V	G	A	M	K	K	G	V	G	R	A	V	G	L	G	G	G	S	20
21	G	C	Q	A	T	E	E	D	P	L	P	D	C	G	A	C	A	P	G	Q	40
41	G	G	R	R	W	R	L	P	Q	P	A	W	V	E	G	S	S	A	R	L	60
61	W	E	Q	A	T	G	T	G	W	A	D	L	E	A	S	L	L	P	T	G	80
81	P	N	A	S	N	T	S	D	G	P	D	N	I	T	S	A	G	S	P	P	100
101	R	T	G	S	I	S	Y	I	N	I	I	M	P	S	V	F	G	T	I	C	120
121	L	L	G	I	I	G	N	S	T	V	I	F	A	V	V	K	K	S	K	L	140
141	H	W	C	N	N	V	P	D	I	F	I	I	N	L	S	V	V	D	L	L	160
161	F	E	L	G	M	P	F	M	I	H	Q	L	M	G	N	G	V	W	H	F	180
181	G	E	T	M	C	T	L	I	T	A	M	D	A	N	S	Q	F	T	S	T	200
201	V	I	E	L	T	A	M	A	I	D	R	Y	L	A	T	V	H	P	I	S	220
221	T	K	F	R	K	P	S	V	A	T	L	V	I	C	L	L	W	A	L	S	240
241	F	I	S	I	T	P	V	W	L	Y	A	R	L	I	P	F	P	G	G	A	260
261	V	G	C	G	I	R	L	P	N	P	D	T	D	L	Y	W	F	T	L	Y	280
281	Q	F	E	L	A	F	A	L	F	F	V	V	I	T	A	A	Y	V	R	I	300
301	L	Q	R	M	T	S	S	V	A	P	A	S	Q	R	S	I	R	L	R	T	320
321	K	R	V	T	R	T	A	I	A	I	C	L	V	F	F	V	C	W	A	P	340
341	Y	Y	V	L	Q	L	T	Q	L	S	I	S	R	P	T	L	T	F	V	Y	360
361	L	Y	N	A	A	I	S	L	G	Y	A	N	S	C	L	N	P	F	V	Y	380
381	I	V	L	C	E	T	F	R	K	R	L	V	L	S	V	K	P	A	A	Q	400
401	G	Q	L	R	A	V	S	N	A	Q	T	A	D	E	E	R	T	E	S	K	420
421	G	?																			422

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## FIGURE 14

1	M S V G A A K K G V G R A V G L G G G S	20
21	G C Q A T E E D P L P D C G A C A P G Q	40
41	G G R R W R L P Q P A W V E G S S A R L	60
61	W E Q A T G T G W A D L E A S L L P T G	80
81	P N A S N T S D G P D N L T S A G S P P	100
101	R T G S I S Y I N I I M P S V F G T I C	120
121	L L G I I G N S T V I F A V V K K S K L	140
141	H W C N N V P D I F I I N L S V V D L L	160
161	F L E G M P F M I H Q L M G N G V W H F	180
181	G E T M C T L I T A M D A N S Q F T S T	200
201	Y I L T A M A I D R Y L A T V H P I S S	220
221	T K F R K P S V A T L V I C L L W A L S	240
241	F I S I T P V W L Y A R L I P F P G G A	260
261	V G C G I R L P N P D T D L Y W F T L Y	280
281	Q F F L A F A L P F V V I T A A Y V R I	300
301	L Q R M T S S V A P A S Q R S I R L R T	320
321	K R V T R T A I A I C L V F F V C W A P	340
341	Y Y V L Q L T Q L S I S R P T L T F V Y	360
361	L Y N A A I S L G Y A N S C L N P F V Y	380
381	I V L C E T F R K R L V L S V K P A A Q	400
401	G Q L R A V S N A Q T A D E E R T E S K	420
421	G T	422

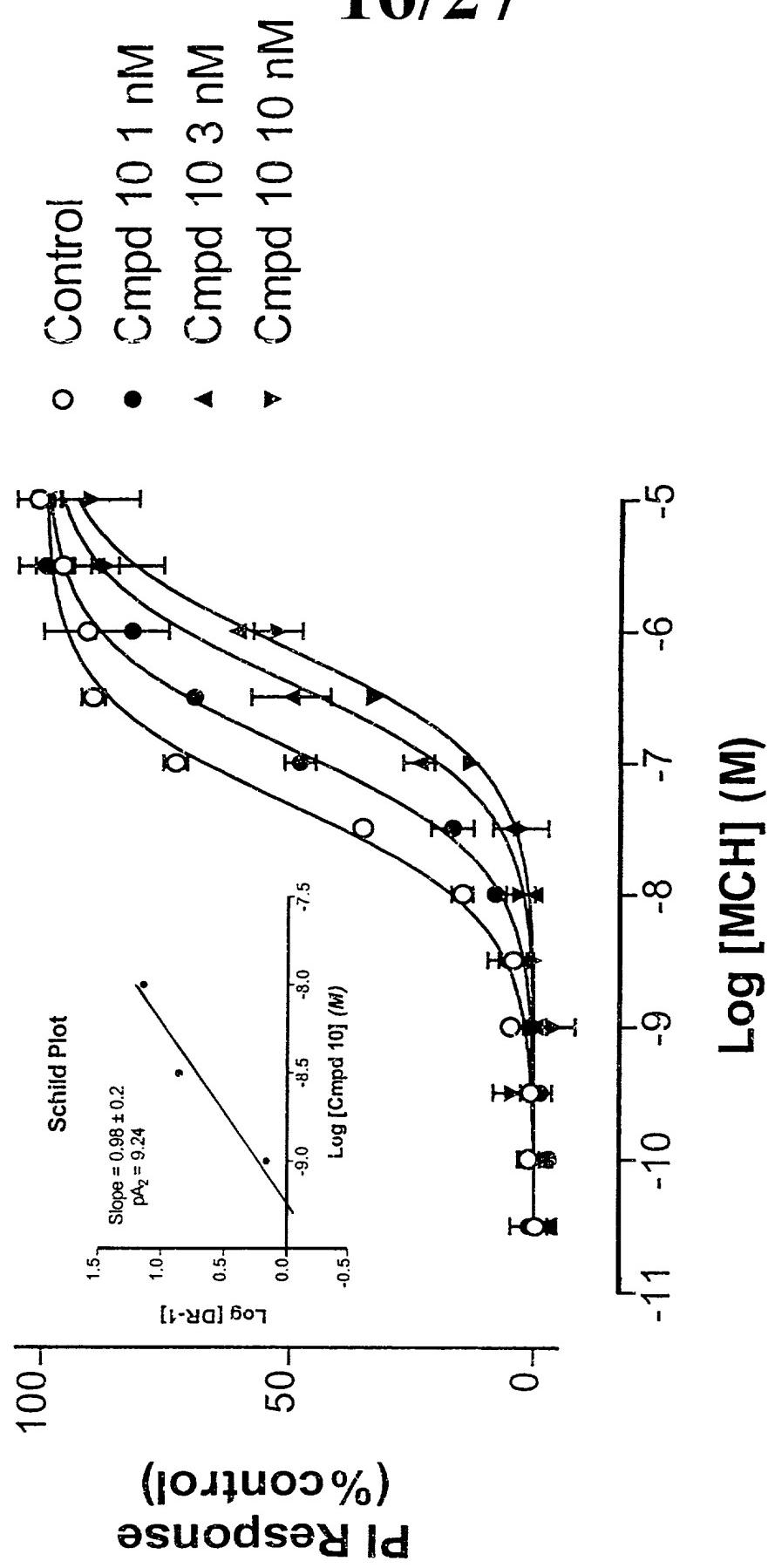
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**FIGURE 15**

1	M D L E A S L L P T G P N A S N T S D G	20
21	P D N L T S A G S P R T G S I I S Y I N	40
41	I I M P S V F G T I C L L G I I S G N S I	60
61	V I F A V V K K S K L H W C N N V P D I	80
81	F I I N L S V V D L L F L G M P F M I	100
101	H Q E M G N G V W H F G E T M C T L A I	120
121	A M D A N S Q F T S T Y I L T A M A I	140
141	R Y L A T V H P I S S T K F R K P S V A	160
161	T L V I C L L W A L S F I S I T P V W L	180
181	V A R L I P F P G G A V G C G I R L P N	200
201	P D T D L Y W F T L Y Q F F L A F A L P	220
221	F V V I T A A Y V R I L Q R M T S S V A	240
241	P A S Q R S I R L R T K R V T R T A I A	260
261	I C L V F F V C W A P Y Y V L Q L T Q L	280
281	S I S R P T L T F V Y L Y N A A I S L G	300
301	Y A N S C L N P F V Y I V L C E T F R K	320
321	R L V L S V K P A A Q G Q L R A V S N A	340
341	-Q T A D E E R T E S K G T	353

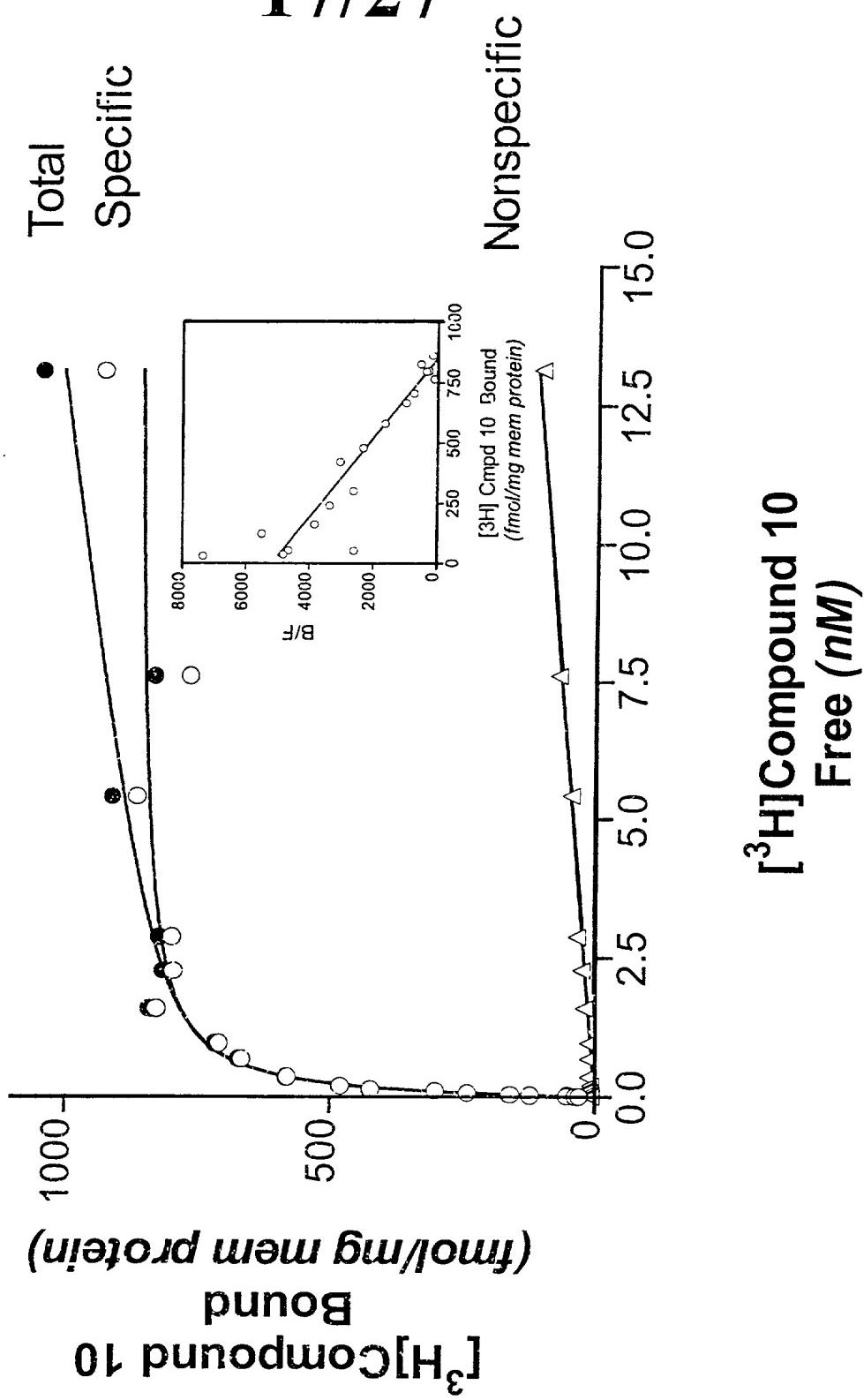
**FIGURE 16**

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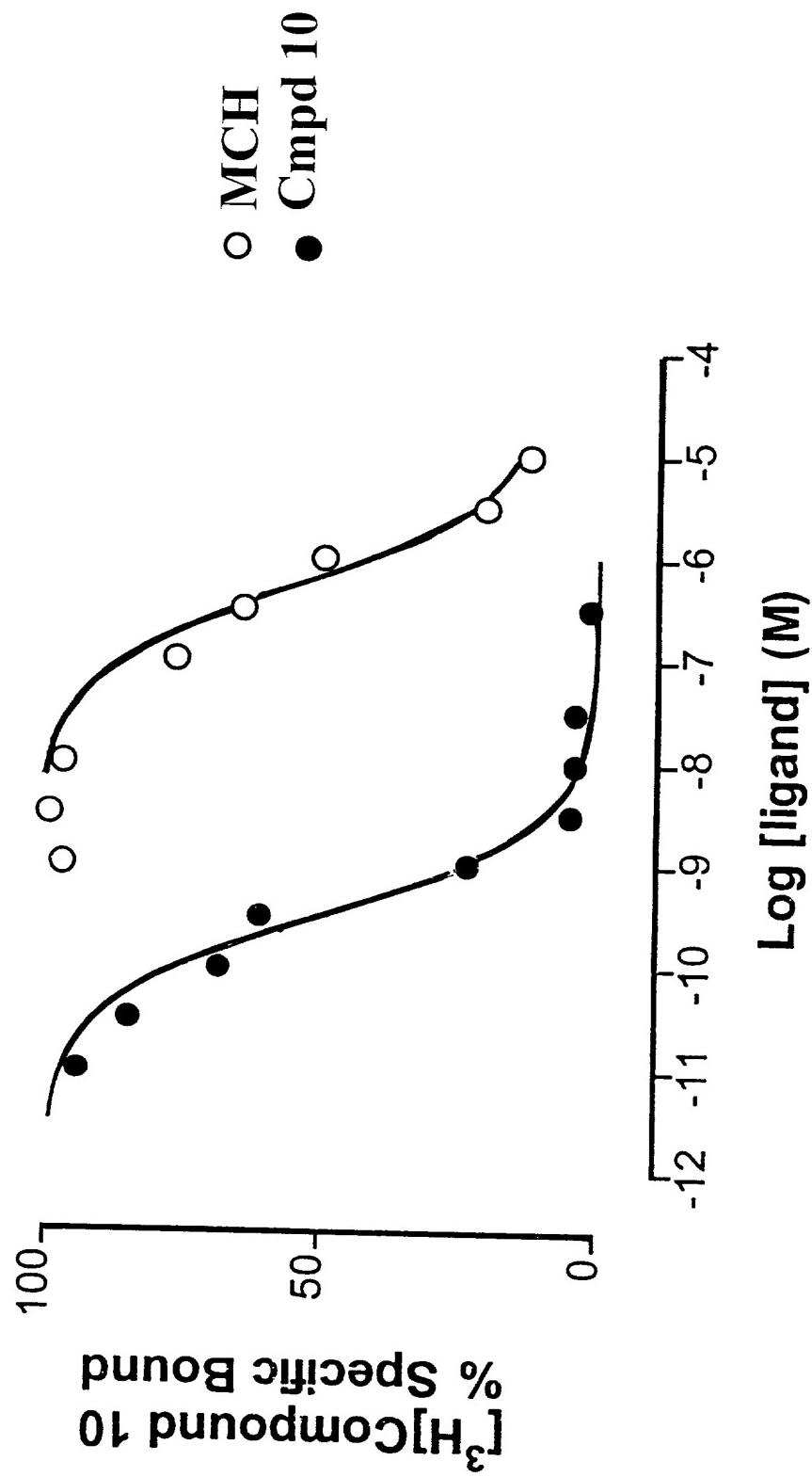
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FIGURE 17



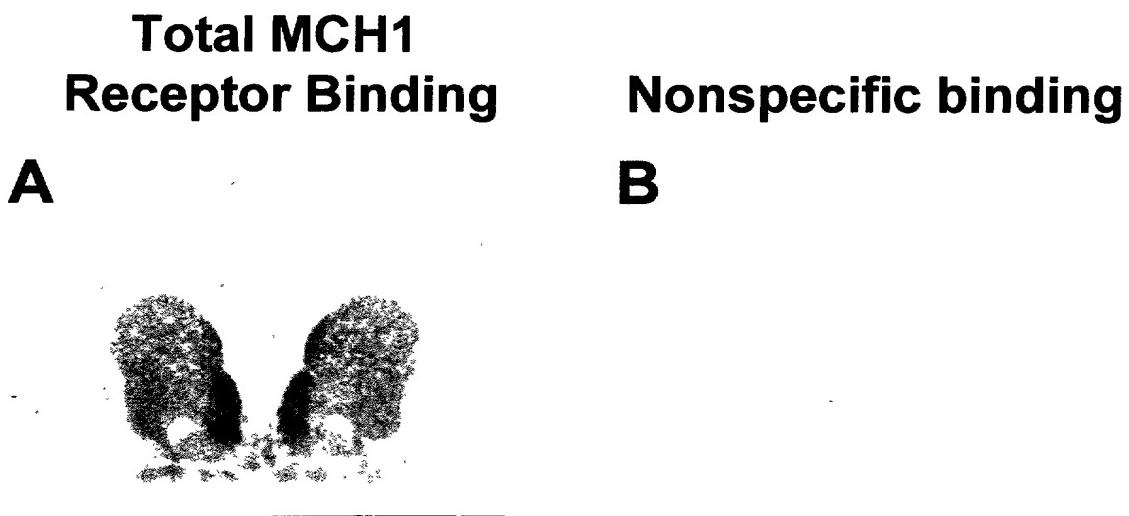
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FIGURE 18



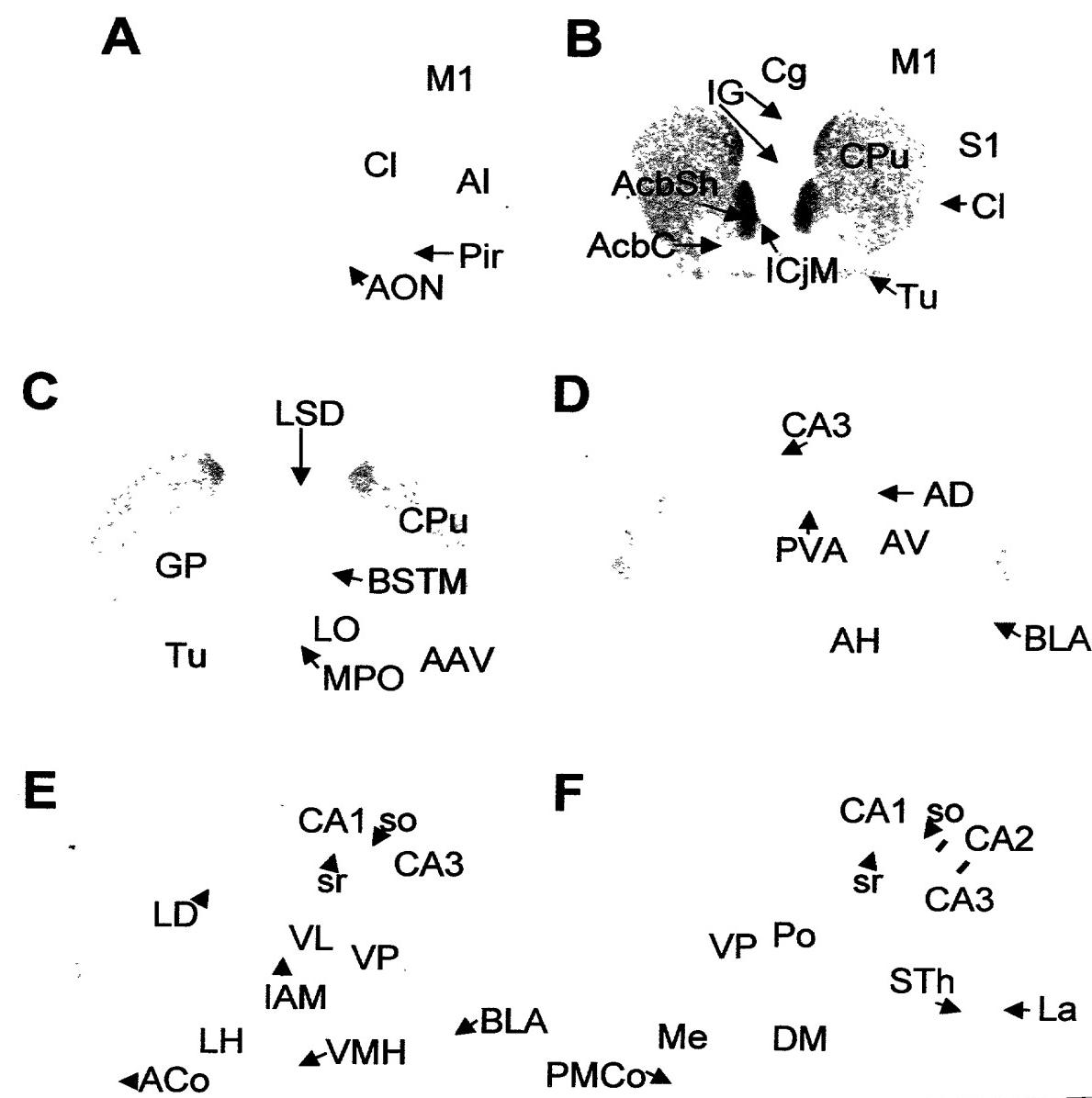
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## **FIGURE 19**



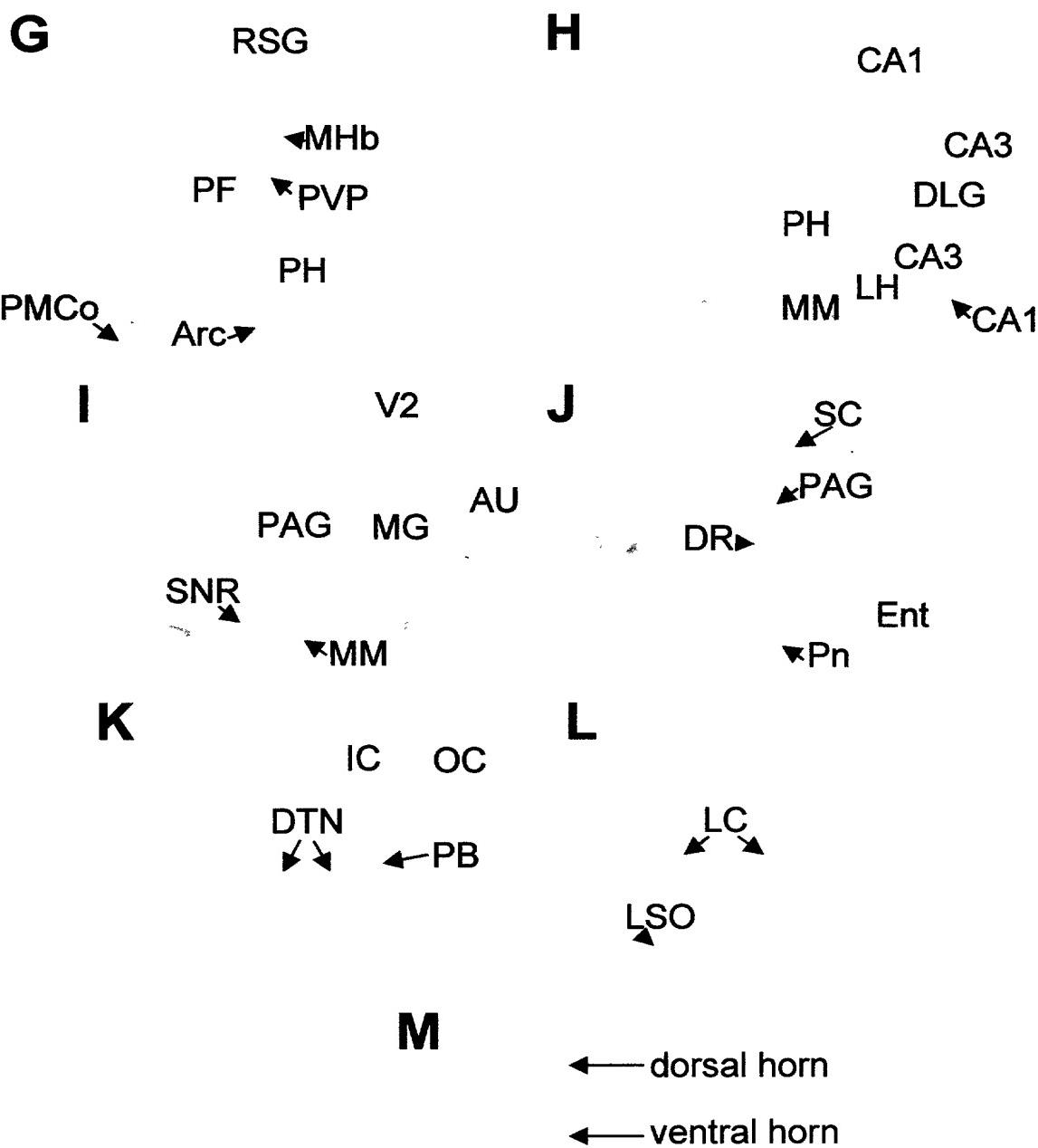
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**FIGURE 20A**

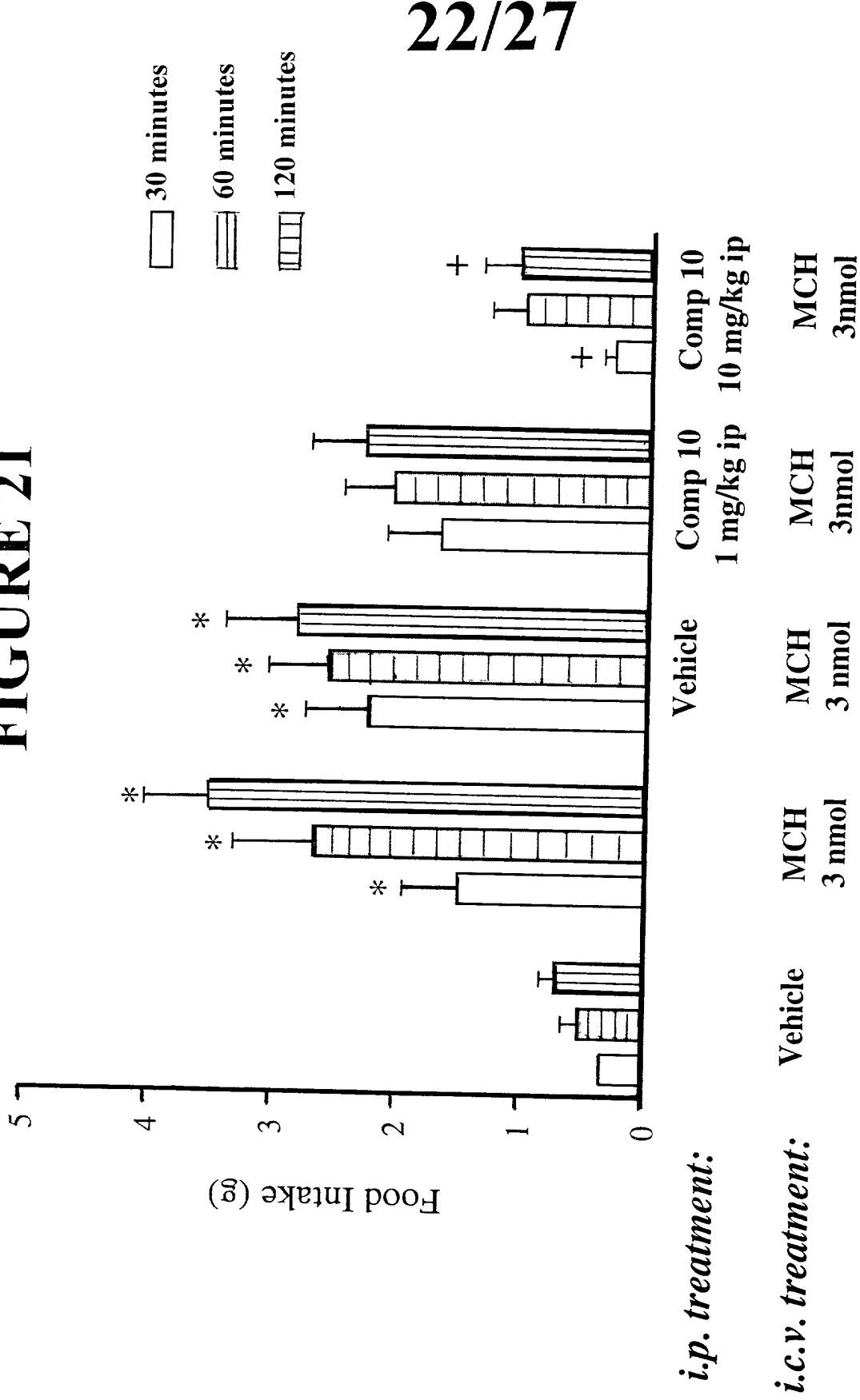


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**FIGURE 20B**

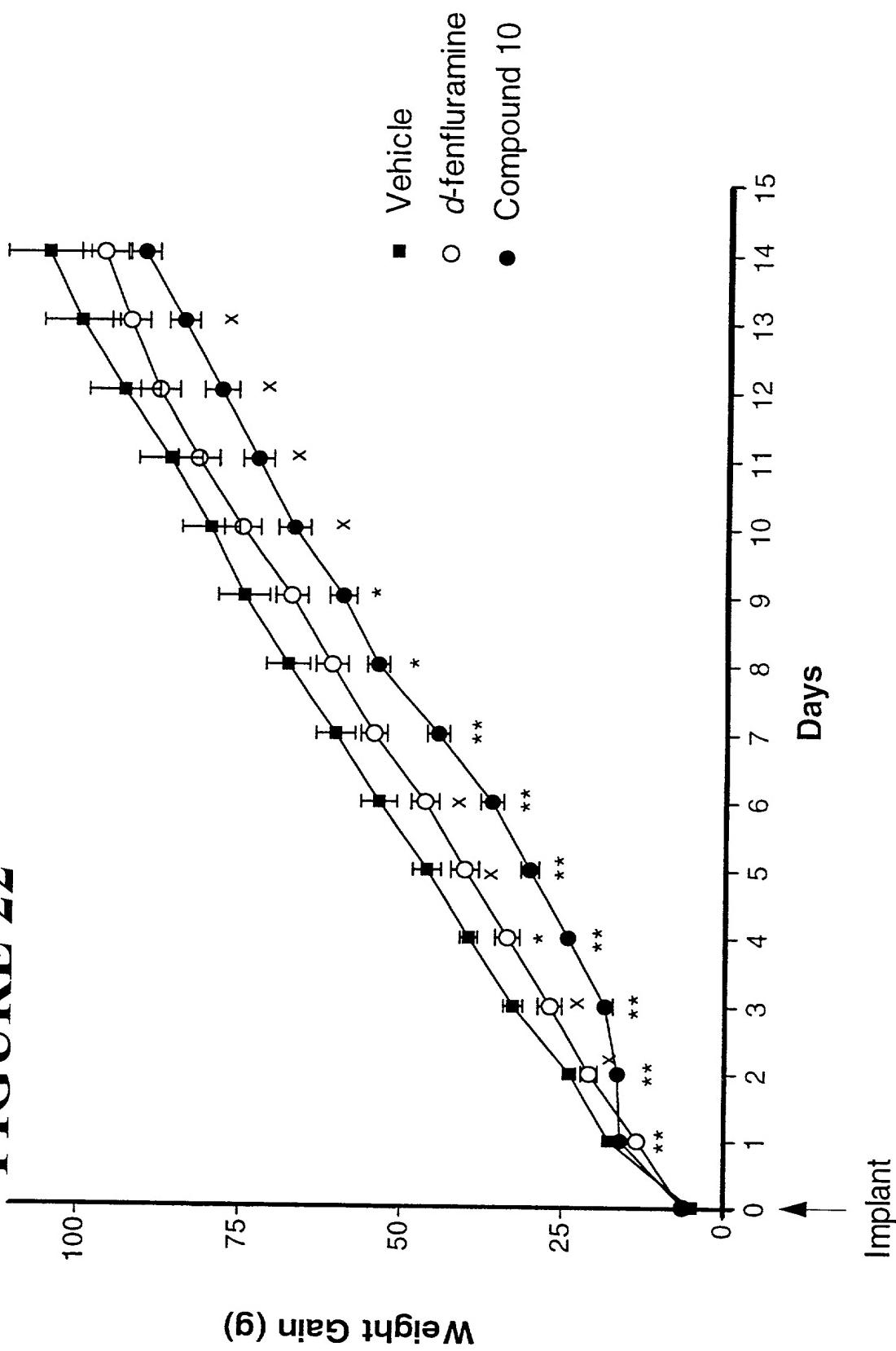


**FIGURE 21**



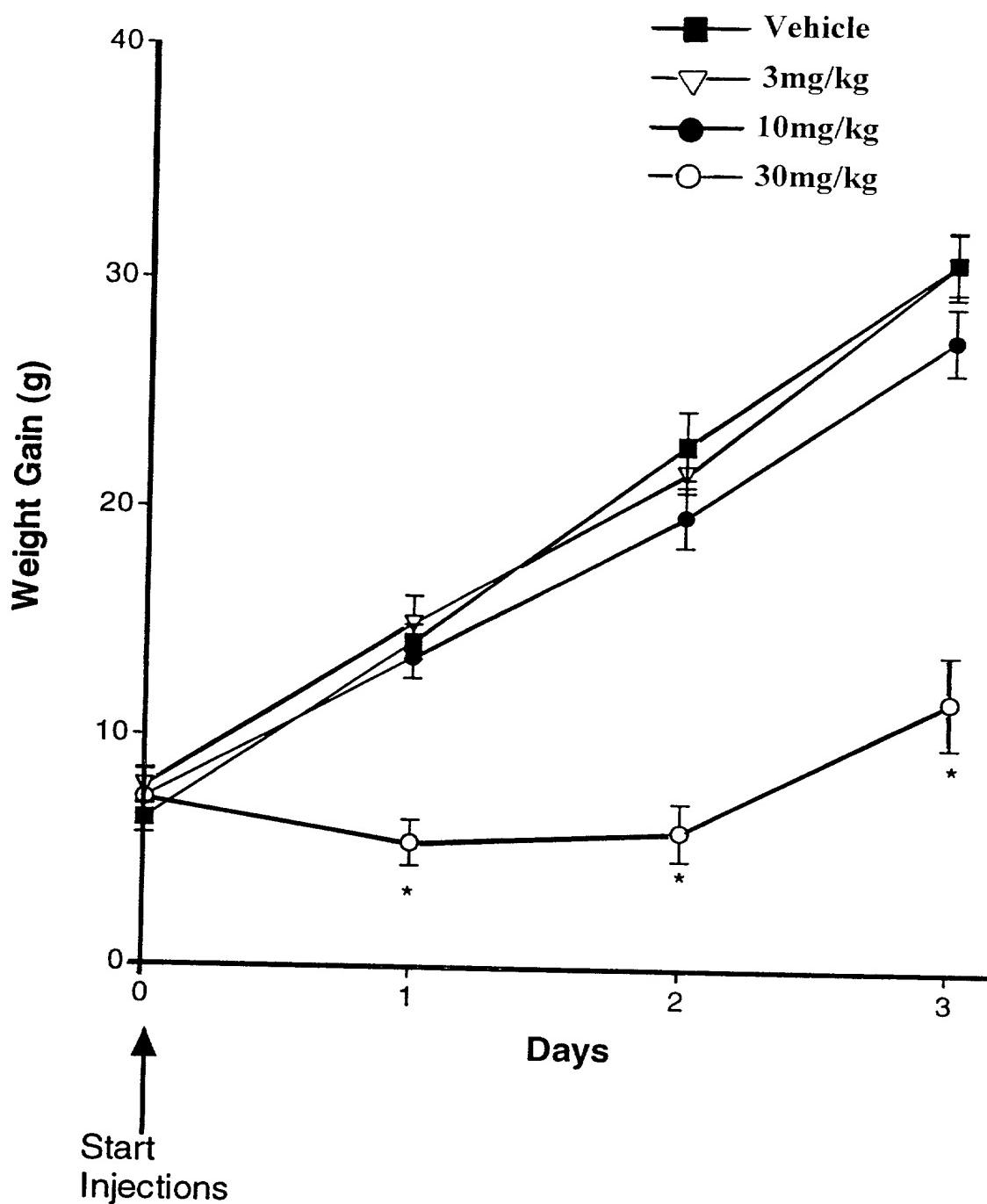
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**FIGURE 22**



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**FIGURE 23**



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**FIGURE 24**

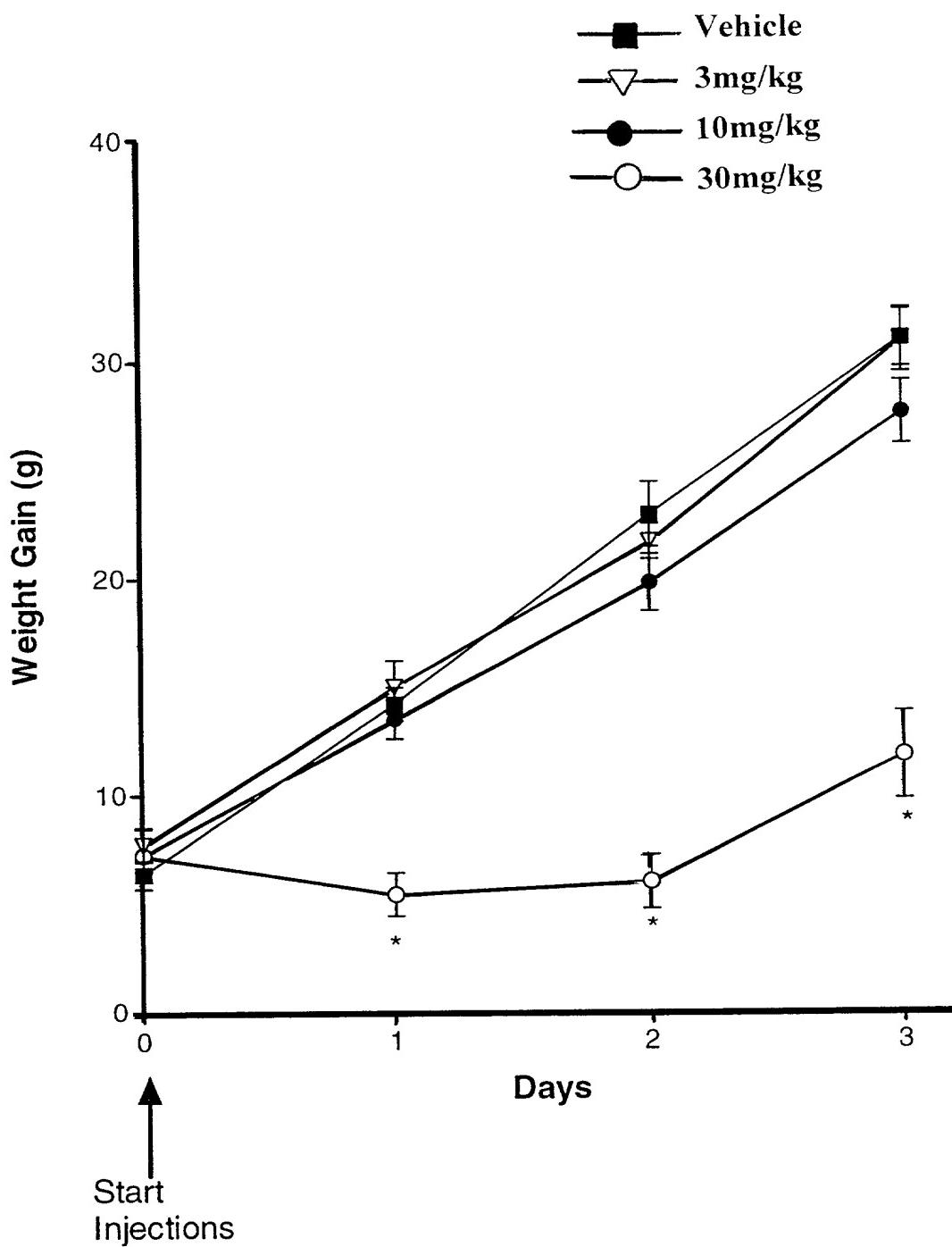
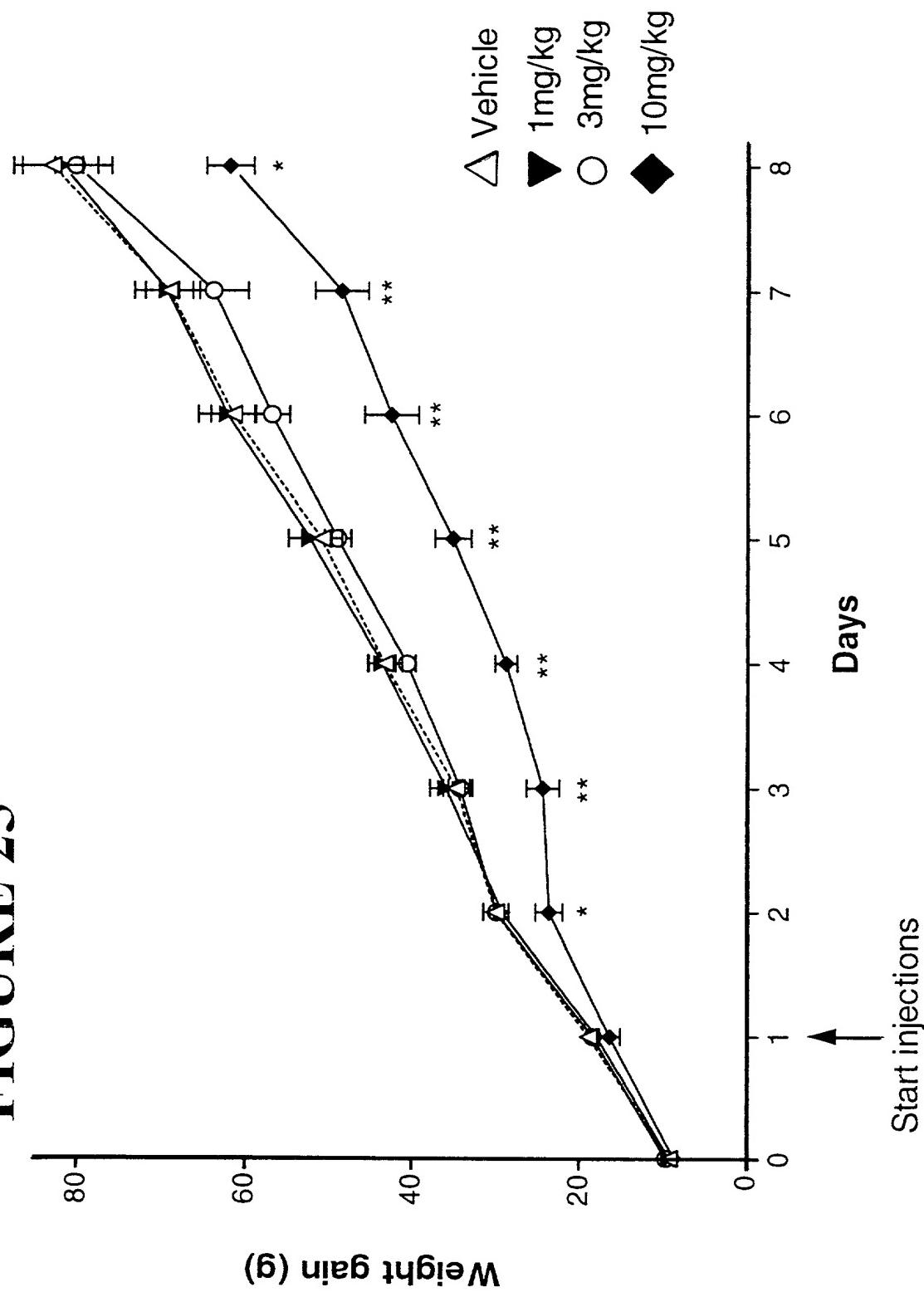


FIGURE 25



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**FIGURE 26**

